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NATIONAL FOREST CONTRIBUTIONS TO STATE AND LOCAL GOVERNMENTS 1962

Forest Service
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NATIONAL FOREST CONTRIBUTIONS TO STATE AND LOCAL GOVERNMENTS, 1962

Introduction

From time to time the Forest Service has analyzed revenue sharing payments on National Forest lands[1/] in relation to the amounts that it is estimated would be received by State and local governments from such lands if payments were equivalent to the taxes levied on similar property in private ownership. The last such study covered the year 1952.[2/]

The present study, for the year 1962, serves to up-date the previous one and for the sake of comparability has employed similar methods. As in the case of the 1952 study, there was a 3-fold purpose: (1) to estimate amounts that might be payable on National Forest lands and timber if such amounts were equivalent to taxes on similar property in private ownership; such amounts are referred to as "estimated taxes"; (2) to estimate the amount of expenditures now incurred by the Federal

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1/ Under the Acts of May 23, 1908 and March 1, 1911 as amended, a payment amounting to 25-percent of gross receipts from each National Forest is made at the end of the F.Y. to the State in which such forest is located. These "25-percent fund payments" are then expended as the legislature may direct for the benefit of the public schools and public roads of the county or counties in which the National Forest is situated.

2/ National Forest Contributions to Local Governments, 1952. U. S. Department of Agriculture, Forest Service, 1954, 26 pp. Processed. In-service distribution. For published summary see National Forest Contributions to Local Governments Land Economics 31(3):204-14 August 1955.

government such as certain fire control and road costs that States or counties would need to incur in the absence of Federal outlays for such purposes; such amounts are referred to as "contributions in-kind" and (3) to compare estimated taxes with 25-percent fund (revenue sharing) payments and with contributions in-kind.

The study was based on the same sample area as the previous one. National Forest counties had been grouped into strata based on location and natural and economic characteristics and an average of 4 sample counties selected at random in each stratum. The sample counties include 40 percent of total National Forest acreage in the contiguous United States. The sampling error for each Forest Service administrative region is listed in the Appendix.

In addition to the National Forest analysis, data were collected also for the National Grasslands; full coverage was obtained without recourse to sampling. The comparison of estimated taxes, 25-percent fund payments and contributions in-kind for the National Grasslands is contained in the Appendix.

National Forest Summary

Estimated taxes on National Forest land and timber in the calendar year 1962 amounted to $68.8 million, or 43 cents per acre. Payments to local governments from the 25-percent fund totaled $30.3 million, or 19 cents per acre. In addition, contributions in-kind amounted to $70.0 million, or 44 cents per acre. Estimated taxes were 2.3 times 25-percent fund payments but only 69 percent of

25-percent fund payments and contributions in-kind taken together. These relationships are shown in tabular form below and are contrasted with findings of the 1952 study in Figure 1.

Item	Dollars (Millions)	Cents per acre	Percent
Estimated tax, calendar year 1962	68.8	43	
25-percent fund payments, fiscal year 1962	30.3	19	
Contributions in-kind, fiscal year 1962	70.0	44	
Estimated tax as percent of 25-percent fund payments			227
Estimated tax as percent of combined 25-percent fund payments and contributions in-kind			69

Data for Forest Service administrative Regions are shown in Table 1.

A comparison of 1962 and 1952 findings is as follows.

	1952	1962	Increase	Increase
	----Cents per acre------			percent
Estimated tax (calendar year)	19	43	24	126
25-percent fund payments (fiscal year)	11	19	8	73
Contributions in-kind (fiscal year)	24	44	20	83

Estimated taxes more than doubled over the 10-year period increasing from 19 cents to 43 cents per acre. Revenue sharing payments and contributions in-kind also increased substantially, but at a somewhat slower rate. In absolute terms, estimated taxes increased 24 cents per acre over the 10 years as contrasted with 8 cents per acre for revenue sharing payments or three times as much. Both in 1952 and in 1962 the sum of

FIGURE 1.--ESTIMATED TAXES, 25-PERCENT FUND PAYMENTS, AND SPECIFIC CONTRIBUTIONS IN-KIND

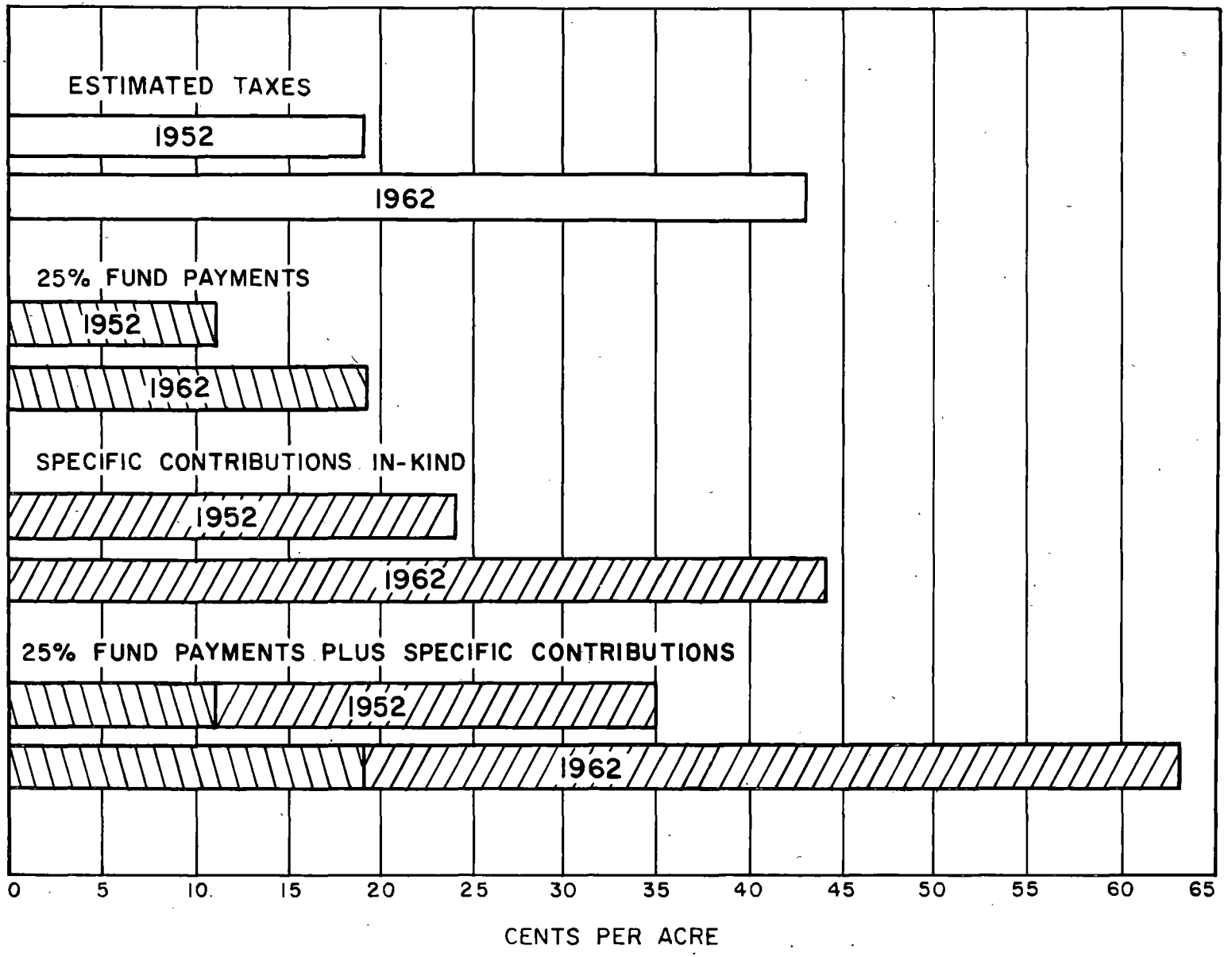


Table 1

Comparison of estimated taxes, 25 percent fund payments, and contributions in-kind by National Forest Regions and strata

(1) National forest region	(2) National forest area	(2-a) Acres in sample and percent of column 2		(3) Estimated tax C.Y. 1962	(4) 25% fund payments F.Y. 1962	(5) Taxes as percent of 25% fund payments
	Acres	Acres	Percent	Dollars	Dollars	Percent
No. Rocky Mountain	24,717,553	13,759,184	56	5,393,025	1,674,973	322
Rocky Mountain	19,751,081	4,262,552	22	3,059,283	330,740	925
Southwestern	19,948,965	6,072,847	30	2,394,397	542,380	441
Intermountain	30,735,639	12,533,015	41	3,433,121	644,761	532
California	19,340,266	8,669,573	45	15,553,460	3,137,505	496
Pacific Northwest	23,831,943	11,457,707	48	33,166,416	19,330,748	172
Eastern	4,243,674	2,038,105	48	660,787	582,484	113
Southern	9,714,963	2,548,789	26	2,594,531	3,496,703	74
North Central	8,598,093	3,567,946	41	2,582,784	582,277	444
Total	160,882,177	64,909,718	40	68,837,804	30,322,571	227

(1) National forest region	(6) Specific contributions in-kind F.Y. 1962	(7) 25% fund payments plus contributions in-kind	(8) Taxes as percent of 25% payments plus contributions	(9) Estimated tax per acre	(10) 25% fund payments per acre	(11) Contributions in-kind per acre
	Dollars	Dollars	Percent	Cents	Cents	Cents
No. Rocky Mountain	6,424,998	8,099,971	67	21.8	6.8	26.0
Rocky Mountain	4,124,222	4,454,962	69	15.5	1.7	20.9
Southwestern	4,267,527	4,809,907	50	12.0	2.7	21.4
Intermountain	5,563,076	6,207,837	55	11.2	2.1	18.1
California	26,732,067	29,869,572	52	80.4	16.2	138.2
Pacific Northwest	14,553,207	33,883,955	98	139.2	81.1	61.1
Eastern	1,255,107	1,837,591	36	15.6	13.7	29.6
Southern	3,293,666	6,790,369	38	26.7	36.0	33.9
North Central	3,804,768	4,387,045	59	30.0	6.8	44.3
Total	70,018,638	100,341,209	69	42.8	18.8	43.5

revenue sharing payments and contributions in-kind exceeded estimated taxes. The margin was 16 cents per acre in 1952 and 20 cents per acre in 1962.

Estimated taxes

As in the previous study, calculation of the estimated tax consisted of four steps. (1) Assessing officers were visited in each sample county to determine assessment classes in local use and average assessed values per acre or per physical timber unit. (2) National Forest lands in the sample counties were classified according to local assessment practice; the acreage in each classification multiplied by the average assessed value per acre then gave the total "assessed value." (3) Prevailing tax rates per $100 of assessed value were ascertained and were multiplied by the estimated "assessed values" to determine the total estimated "tax" and the estimated tax per acre for the sample counties. (4) The average tax per acre for the sample counties in each stratum was multiplied by the National Forest acreage to find the total estimated tax for the stratum. Data for the respective strata were added to obtain regional totals.

Comments under each of the above steps describe the more important findings of the recent study and significant changes from the situation as it existed 10 years ago.

As in the earlier study only bare land values were taken into consideration in States having mandatory yield taxes. Timber values

under such circumstances are not subject to the property tax. Yield and severance taxes on products harvested were not included in the study since such taxes are already being paid on most timber cut on the National Forests.

Assessment classes

A gradual but significant improvement in assessment practices has been taking place over the past decade. Although a number of sample counties continue to use a single classification such as "woodland," "wildland," "cutover," "unimproved," or simply "acreage" or "land" others are introducing greater selectivity. Thus a county in the Northern Region that used only "timber" and "grazing" in 1952 has now "sawtimber-pine," "sawtimber-spruce," "sawtimber-other" and "cutover." In the heavily timbered areas of California and the Pacific Northwest assessors to an increasing extent are utilizing timber cruise data showing quantity of timber by species with adjustment for accessibility.

In the South a county that 10 years ago recognized only "mountain land" now lists the following classes:

Cutover	1-5 years
Young growth	5-10 years
Second growth	10-20 years
Second growth	20-40 years
Mature-50 percent stocking	

Another Southern county that was content with a single "acreage" classification in 1952 now specifies "swamp," "class one open,"

"cutover," and three grades of sawtimber and pulpwood. Even though the assessment of forest land and timber is still rudimentary in many areas progress is being made.

Classification of National Forest lands

County officials worked closely with Forest Service representatives in the interpretation of local assessment practices. In counties lacking a forest land classification for assessment purposes, analysis was made of assessed values applicable to intermingled private tracts making use in some cases of county-wide aerial photographs, range allotment maps and timber compartment records.

In the more heavily timbered counties greater variation was naturally found in the assessed values of private tracts. One Region reported as follows:

> The most difficult phase of the study was to determine what was theory and what was actual taxing practice; it would be naive not to fully recognize the political influence. Assessors are faced with the almost impossible job of keeping current in appraisals. In many counties the assessor with funds made available to him is unable to hire sufficient help to do a satisfactory job. As a result some properties have not been reappraised for several years and others have had only rough appraisals...in general there is variation in taxing practice between new and long time ownership and large and small holdings. Large holdings, particularly the timber companies, present a tremendous appraisal job... some of the information is based on cruises that are more than 30 years old. Small holdings can be relatively easily appraised.

In the western States judgment was required in determining the area of low value lands not likely to pass into private ownership if available for patent. As would be expected, increasing demand for land over the 10 year period since the 1952 study has led to less acreage being regarded as "unpatentable." In some Regions the reductions have virtually eliminated this category and for the six western Regions as a whole the portion of sample county area classified in this way has dropped from 18 to 9 percent. The 10 year comparison by Regions follows.

Region	Area classified "unpatentable" as percent of total sample county area	
	1952	1962
Northern	23.4	11.9
Rocky Mountain	10.2	10.0
Southwestern	--	--
Intermountain	26.0	23.2
California	17.7	2.4
Pacific Northwest	13.4	.5
Western Regions as a whole	17.6	9.2

In addition to lands carrying the "unpatentable" designation there are substantial sub-alpine and other areas reported in barren, waste and other very low value classifications. Whether lands are classified in this way or regarded as "unpatentable" is relatively unimportant in terms of the total estimated tax. If "unpatentable" lands had been assigned a nominal assessed value of 50 cents per acre, the estimated

tax would have been increased less than three-fourths of one percent in the five Regions classifying National Forest lands in this way.

Assessed valuation

Estimated assessed values of National Forest lands in the sample counties are listed in Table 2 by stratum and Region. Assessed values are shown to have increased in nearly every sampling stratum with the total for all sample counties 64 percent higher than 10 years ago. Lower assessed values in a few areas reflect reduced volume of old-growth timber or reductions made possible by increase in the millage rate. In view of wide variations in the ratio of assessed values to current market values no attempt has been made to use these data as a basis for calculating an estimated current market value for National Forest lands.

Tax rates

In some counties a single tax rate covers all property tax levies for State, county, school and other local district purposes. In other counties overlapping levies require analysis by districts, zones or tax code areas. One Region stated that from 6-8 rates were typically found in a county largely by reason of different school districts. Tax rates per $100 of assessed value in the sample counties range typically from $2 to $10 with rates occasionally going as high as $30 or even more.

Table 2.--Estimated assessed valuation per acre of National Forest lands in sample counties, by Region and stratum

Region and stratum	1952	1962	Increase[1/]	Increase[1/]
	-------Dollars per acre-------			(percent)
Northern				
Montana	1.87	3,84	1.97	105
N. Idaho	2.63	4,75	2.12	81
N.E. Washington	2.81	12.31	9.50	338
Rocky Mountain				
Colorado	2.85	3.51	.66	23
South Dakota	4.48	12.89	8.41	188
Nebraska	2.51	3.97	1.46	58
E. Wyoming	1.56	1.63	.07	4
Southwestern				
Arizona	2.41	1.76	(.65)	(27)
New Mexico	1.43	1.66	.23	16
Intermountain				
S. Idaho	1.66	2.72	1.06	64
Nevada--Utah	1.15	1.20	.05	4
W. Wyoming	1.23	1.82	.59	48
E. California	2.95	5.77	2.82	96
California				
S. California	9.54	18.38	8.84	93
California-N. Coast	12.05	10.86	(1.19)	(11)
California-Sierra	6.34	15.01	8,67	137
Pacific Northwest				
W. Oregon	20.94	55.52	34.58	165
E. Oregon	6.21	11.56	5.35	86
W. Washington	28.58	24.02	(4.56)	(16)
E. Washington	2.85	9.12	6.27	220
Eastern				
Virginia	1.89	4.45	2.56	135
W. Va.--Pa.	4.35	6.37	2.02	46
Kentucky	4.10	4.11	.01	--
Vermont	5.20	4.00	(1.20)	(23)
New Hampshire	3.06	3.92	.86	28
Southern				
Ark.--La.	3.51	4.41	.90	25
Okla.--Texas	3.48	6.36	2.88	83
Tenn.-Miss.-Ala.	3.48	9.64	6.16	177
Georgia-Florida	3.19	7.20	4.01	126
No. Car.-So. Car.	4.38	7.56	3.18	73
North Central				
Michigan	5.12	8.20	3.08	60
Minnesota	1.17	1.19	.02	2
Wisconsin	3.81	4.97	1.16	30
Missouri	4.47	4.93	.46	10
Ill.-Ind.-Ohio	6.39	9.85	3.46	54
All sample counties	4.76	7.83	3.07	64

1/ Figures in parentheses represent decreases.

Tax rates tended to rise over the 10 year period as would be expected. One Region reported tax rate increases in the sample counties ranging from 2-105 percent with most falling within a range of 20-60 percent increase. Due to the interrelation of the assessment ratio and the tax rate, changes in the two need to be considered jointly.

Total estimated tax and the estimated tax per acre

As shown in Table 1, the estimated tax for all National Forest lands in 1962 amounted to $69 million, the equivalent of 43 cents per acre. The estimated tax per acre was 24 cents or 126 percent greater than in 1952. It is of interest by way of comparison that the average tax per acre on farm real estate nationwide as determined by the Economic Research Service increased by 60 cents or 79 percent over the same 10-year period. The more rapid rate of increase on forest lands doubtless reflects the greater attention given by assessing officers in recent years to up-dating timber inventories and timber values. This has been particularly true on the Pacific Coast where timber values are large relative to the property tax base as a whole.

The estimated tax per acre in 1962 varied from $1.39 in the Pacific Northwest to 11 cents in the Intermountain Region. A comparison of the 1962 and 1952 data by Region is shown below. Increases range from 179 percent in the Northern Region to 64 percent in the Eastern Region.

Estimated tax per acre

	1952	1962	Increase	Increase (percent)
	-----Cents per acre-------			
Northern	7.8	21.8	14.0	179
Rocky Mountain	8.2	15.5	7.3	89
Southwestern	5.2	12.0	6.8	131
Intermountain	6.0	11.2	5.2	87
California	38.7	80.4	41.7	108
Pacific Northwest	54.8	139.2	84.4	154
Eastern	9.5	15.6	6.1	64
Southern	13.5	26.7	13.2	98
No. Central	16.5	30.0	13.5	82

In the Pacific Northwest, the States of Oregon and Washington impose an acreage tax for fire control purposes on forest land in private ownership. Although not forming part of the property tax levy as in some States, the fire suppression tax is of comparable nature. If added to the estimated tax as determined by sampling procedures, the total estimated tax per acre for the Region would increase from $1.39 to $1.50. Details for the respective sampling strata within the Region are contained in the Appendix.

25-percent fund payments

Revenue sharing payments shown in column 4 of Table 1 represent actual disbursements and are not derived by sampling procedures. Although 25-percent fund payments make up the bulk of direct National Forest contributions to States and local governments, such contributions include also Arizona and New Mexico school funds in the Southwestern Region, payments based upon a percentage of appraised value of the Boundary Waters canoe area in the North Central Region and receipts

from lands of O & C origin (Oregon and California Railroad Grant Lands) in the Pacific Northwest Region. The latter payments amount to 75 percent of gross receipts of which two-thirds are received by the counties in cash and the remaining one-third, by voluntary agreement, serves to reimburse the Federal government for costs of road construction, reforestation and other improvements on O & C lands.

Total payments applicable to F.Y. 1962 amounted to $30.3 million. Payments ranged from a high of $19.3 million in the Pacific Northwest to $331 thousand in the Rocky Mountain Region. On a per acre basis the range was 81 cents per acre in the Pacific Northwest and 36 cents in the South to less than 2 cents in the Rocky Mountain area. A per-acre comparison with 1952 is shown below by Regions.

25-percent fund payments per acre

Region	1952	1962	Increase	Increase (percent)
	----------Cents----------			
Northern	4.6	6.8	2.2	48
Rocky Mountain	2.7	1.7	(1.0)	(37)
Southwestern	3.7	2.7	(1.0)	(27)
Intermountain	2.1	2.1	--	--
California	17.0	16.2	(.8)	(5)
Pacific Northwest	33.0	81.1	48.1	146
Eastern	5.6	13.7	8.1	145
Southern	27.8	36.0	8.2	29
No. Central	6.2	6.8	.6	10

It will be noted that one Region showed no change, three Regions increased up to 50 percent, two Regions increased almost 150 percent while in three Regions payments declined. The increase in the Pacific Northwest Region is attributable in part to the inclusion in 1962

of receipts from lands of O & C origin. Such receipts were not included in the 1952 study; had they not been included in the present study revenue sharing payments in the Region would have averaged 68.3 cents per acre, an increase of 35.3 cents or 107 percent. The decline in average payments per acre in three Regions reflects a combination of changes in stumpage prices and in the quantity of timber sold.

The trend in revenue sharing payments over the 25 year period 1938-62 is shown in Table 3 and Figure 2. Payments rose gradually from an average of less than one cent per acre in 1938 to nearly 12 cents per acre in 1953. Payments have tended to fluctuate more widely in recent years, however, with significant though temporary reductions in 1954 (13 percent), 1956-58 (22 percent), and 1961 (29 percent). The highest payment per acre thus far amounted to nearly 22 cents per acre in 1960. This was followed by a drop to 15 cents in 1961 with substantial recovery since that time.

Wider swings naturally occur on particular National Forests and have amounted to 50 percent or more over one or two year periods. There is greater room for fluctuation where substantial timber harvest is being carried on and the less productive areas with typically small revenues per acre will be less affected by changes in the volume of timber sold or in stumpage prices.

Regional averages mask substantial differences in 25-percent fund payments per acre to individual counties. A frequency distribution for the 672 counties containing National Forest lands is shown in Table 4. More than 80 percent of the counties received up to 30 cents per acre in 1962 while 60 percent received up to 10 cents

Table 3.--National forest contributions to local governments

(25-percent fund payments)

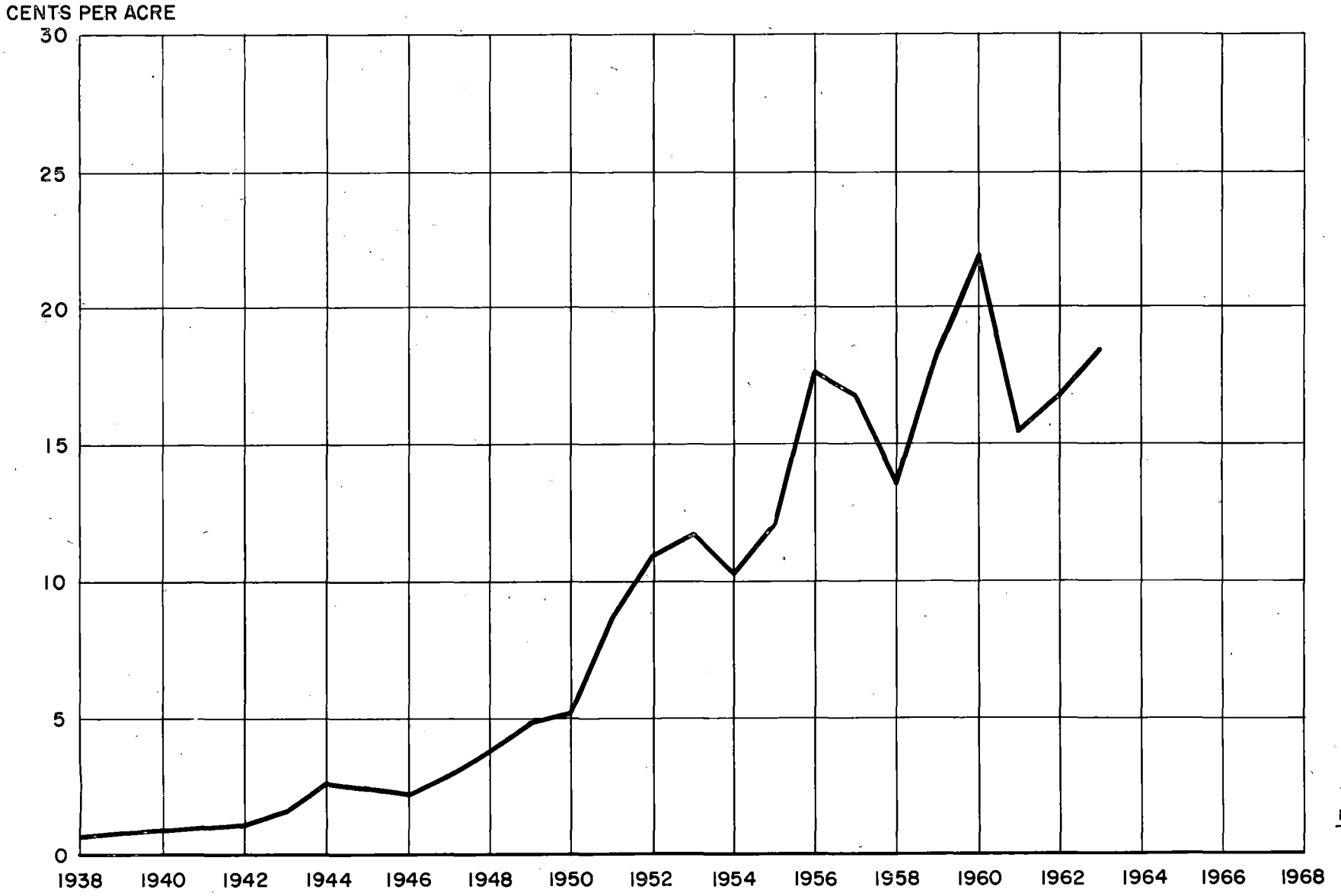
Fiscal year	25-percent fund payments [1]	National Forest area [2]	Average payments per acre
	(Dollars)	(Acres)	(Cents)
1938	1,135,700	152,279,000	.7
1939	1,192,400	153,779,000	.8
1940	1,432,600	154,181,000	.9
1941	1,533,000	155,342,000	1.0
1942	1,670,000	156,283,000	1.1
1943	2,475,700	156,662,000	1.6
1944	4,138,700	157,177,000	2.6
1945	4,003,000	157,399,000	2.5
1946	3,424,400	157,529,000	2.2
1947	4,546,700	157,924,000	2.9
1948	6,012,100	158,373,000	3.8
1949	7,753,300	159,035,000	4.9
1950	8,362,900	159,433,000	5.2
1951	13,974,000	159,703,000	8.7
1952	17,358,500	159,827,000	10.9
1953	18,697,400	160,049,000	11.7
1954	16,393,600	160,023,000	10.2
1955	19,412,700	159,969,000	12.1
1956	28,340,300	160,022,000	17.7
1957	26,833,000	160,004,000	16.8
1958	22,126,800	160,045,000	13.8
1959	29,510,300	160,103,000	18.4
1960	35,210,500	160,413,000	21.9
1961	[3] 24,843,900	160,518,000	[3] 15.5
1962	[3] 27,063,500	161,073,000	[3] 16.8

[1] Does not include payments to Arizona and New Mexico School Fund nor payments to Alaska following adoption of P.L. 758 dated 7/24/56.

[2] Includes Purchase Units; excludes Alaska and Puerto Rico.

[3]

FIGURE 2 -- NATIONAL FOREST CONTRIBUTIONS TO LOCAL GOVERNMENTS
25 PERCENT FUND PAYMENTS



per acre. On the other hand, twenty-eight counties or 4 percent of the total received more than $1.00 per acre in 1962. The frequency distribution does not include payments from lands of O & C origin.

Table 4.--25-percent fund payments to counties, F.Y. 1962
(Frequency distribution)

Payments (cents per acre)	Number of counties	Percent of total	Cumulative frequency	Cumulative frequency in percent of total
-10	385	57	385	57
11-20	102	15	487	72
21-30	64	10	551	82
31-40	23	3	574	85
41-50	24	4	598	89
51-60	18	3	616	92
61-70	16	2	632	94
71-80	7	1	639	95
81-90	5	1	644	96
91-$1.00	-	-	-	-
$1.01-	28	4	672	100
	672	100		

Contributions in-kind

The current study, like that of 10 years ago, attempted to estimate the extent to which expenditures now incurred by the Federal government would have had to be incurred by State or local governments in the absence of the National Forest System. These "contributions in-kind" (also termed "specific contributions in-kind") are of three main types: fire control expenditures, Forest Highway expenditures and construction and maintenance costs for roads, trails and

structures. As in 1952, National Forest expenditures were not classified as "contributions" merely because they served a useful purpose or had some public benefit. The test for inclusion of a given expenditure was whether the State or local government would have needed to incur the cost in question and would in all probability have been able and willing to do so. In case of doubt as to whether an expenditure qualified, it was not included.

Contributions as estimated in the study amounted to $70 million in F.Y. 1962. Contributions ranged from a high of $26.7 million in the California Region to $1.3 million in the Eastern Region. Expressed in terms of cents per acre, the range was from a high of $1.38 in the California Region to 18 cents in the Intermountain Region. Data for 1962 and 1952 are compared below; all Regions but one showed significant increases per acre ranging from 19 to 153 percent. Only in the Pacific Northwest Region were contributions in-kind less than the estimated tax; this was true also in 1952.

Contributions in-kind per acre

Region	1952	1962	Increase	Increase (percent)
	----------Cents----------			
Northern	15.7	26.0	10.3	66
Rocky Mountain	11.9	20.9	9.0	76
Southwestern	21.3	21.4	.1	--
Intermountain	15.2	18.1	2.9	19
California	54.6	138.2	83.6	153
Pacific Northwest	34.6	61.1	26.5	77
Eastern	19.9	29.6	9.7	49
Southern	23.1	33.9	10.8	47
No. Central	23.8	44.3	20.5	86

Contributions in-kind are listed by major type in the tabulation that follows. Fire control expenditures amounted to 16.7 cents per acre or 38 percent, Forest Highway expenditures to 18.7 cents per acre or 43 percent and road, trail and other contributions to 8.1 cents per acre or 19 percent. These relationships have changed but little from those shown in the 1952 study.

Fire control expenditures for which credit was taken in the study amounted in 1962 to $26.8 million. Fire control contributions varied from a low of 1.5 cents per acre in the Southwestern Region to a high of 85.4 cents per acre in the California Region. The fire control contribution was based for the most part on average expenditures per acre actually incurred by the respective States on private forest lands. In some cases relatively small amounts of forest disease or forest insect control expenditures were included where State or local governments were undertaking such programs on private land.

It should be noted that the full Federal expenditure for fire and pest control on the National Forests was not claimed as a contribution. Thus in F.Y. 1962 the Federal government spent $57.3 million for fire control and $7.8 million for forest pest control on the National Forests or $65.1 in all. The Federal expenditure was thus over twice that claimed as a contribution in-kind. 1962 was an unusually severe fire year with fire control expenditures amounting to some $10 million more than the average for recent years. Even after allowing for this, the estimated contributions for forest protection can still only be regarded as very conservative.

Estimated contributions in-kind per acre, by type, F.Y. 1962

Region	Fire control	Forest Highways	Road and trail and other	Total contributions in-kind
	---------- Cents ----------			
Northern	3.5	18.4	4.1	26.0
Rocky Mountain	1.9	17.5	1.5	20.9
Southwestern	1.5	15.9	4.0	21.4
Intermountain	2.5	12.1	3.5	18.1
California	85.4	24.4	28.4	138.2
Pacific Northwest	24.3	28.7	8.1	61.1
Eastern	6.4	17.3	5.9	29.6
Southern	10.3	16.8	6.8	33.9
No. Central	11.2	14.5	18.6	44.3
All Regions	16.7	18.7	8.1	43.5

The Forest Highway contribution comprises the $30 million 1962 Federal appropriation for the Forest Highway System excluding amounts apportioned to Alaska and Puerto Rico. Funds under this appropriation do not require matching by the States. The contribution varied from a low of 12 cents per acre in the Intermountain Region to a high of 29 cents per acre in the Pacific Northwest. The average Forest Highway contribution per acre amounting to 19 cents per acre for National Forest lands represented an increase from 12 cents per acre 10 years before.

The third type of contribution represents a variety of expenditures including those for the construction and maintenance of roads, trails and structures, the latter primarily for recreational use. Contributions

in this category totaled $13.1 million or an average of 8 cents per acre. The range was from a low of 1.5 cents per acre in the Rocky Mountain Region to a high of 28.4 cents per acre in the California Region where recreation and flood control structures were an important factor.

In estimating the road, trail and other contributions latitude of judgment was necessarily involved but every effort was made to be conservative. Only such expenditures were included as it was believed would have been incurred by States or local units of governments in the absence of the National Forest System. Construction of operator built roads was included where it was believed that such roads would have been constructed at public expense but in fact very few such roads were regarded as meeting this test. Included in the present study but not in 1952 were benefits under P.L. 874 of the 81st Congress providing school support for Federally affected areas. Such benefits were claimed only with respect to school children residing on, or whose parents were employed on, the National Forests. Only a third of the sample counties reported payments under P.L. 874 but such counties were well scattered throughout the country with the exception of the Eastern and Southern Regions.

Comparison of estimated taxes, 25-percent fund payments and contributions in-kind

The relation of estimated taxes to 25-percent fund payments and contributions in-kind is shown in the Introduction for the United

States as a whole. For individual Regions as indicated in table 1, estimated taxes exceeded 25-percent fund payments everywhere except in the South where taxes were 74 percent of such payments. In 1952 estimated taxes were 49 percent of 25-percent fund payments in the South. For all Regions both in 1962 and in 1952 estimated taxes were less than the sum of 25-percent fund payments and contributions in-kind. The California and Pacific Northwest Regions taken together account for more than 70 percent of both estimated taxes and 25-percent fund payments nationwide. In view of the relative importance of this area, the comparison of estimated taxes, 25-percent fund payments, and contributions in-kind is shown in the Appendix separately for the Pacific Coast Regions and for the remainder of the country.

It is of interest that in all Regions but one, estimated taxes have gained relative to revenue sharing payments over the 10-year period. Only in the Eastern Region was the reverse true with estimated taxes representing 170 percent of revenue sharing payments in 1952 but only 113 percent in 1962. Taxes increased relative to the sum of revenue sharing payments and contributions in-kind in all Regions except California and the Eastern Region where the decreases were only 1 or 2 percentage points.

In comparing estimated taxes with 25 percent fund payments and contributions in kind, it should be borne in mind that national and regional averages can mask substantial variations among individual counties. Sampling studies such as the present one throw light on the

tax-contributions relationship over broad areas but findings are not necessarily indicative of the situation in particular localities.

A question that arises in comparing estimated taxes and contributions, relates to the diversity of governmental units to which the estimated taxes and contributions accrue. Estimated taxes as determined by the study are real property taxes levied for the most part by counties and their subordinate tax districts although some States levy a property tax also. The study included all State, county, town or township, school, road and other local district taxes levied as part of the general property tax.

Twenty-five percent fund payments, as has been indicated earlier, are paid to the States to be expended as the legislature may prescribe for the benefit of county schools and roads. Various allocation arrangements have in fact been adopted in the various States. Contributions in-kind likewise vary in their impacts upon State and local taxing jurisdictions. Fire control and Forest Highway contributions tend to benefit the States in the first instance; road, trail and other contributions in many instances benefit primarily local tax districts. State and local governments have been considered jointly in the comparison since it has not been practical to relate estimated taxes and contributions (either in cash or in-kind) by specific tax districts or levels of government.

Other Benefits

Many benefits accrue to States and local communities from the National Forests in addition to those for which credit was taken as

revenue sharing payments and as contributions in-kind. Although frequently not practical to express such benefits in monetary terms, they are nevertheless real and merit consideration. Here, as with contributions in-kind, what are of interest are benefits over and above those that would normally stem from forest lands in private ownership. "Other benefits" of this type are both economic and social in character.

The assurance of a permanent raw material supply for the timber based industries in local areas represents an economic benefit of the National Forest system that is difficult to measure. Reforestation of cut-over areas, protection of the forest resource from fire and pests, and timber management including regulation of the cut are all important factors in the stability of forest industries and of local economies. Livestock industries and recreation-based industries likewise, benefit from the assurance of a permanent grazing and recreation resource in numerous local areas.

Social benefits of the National Forests relate primarily to watershed and recreation values. From a watershed standpoint the protection afforded the soil cover through sustained watershed management helps to regulate water flow and prevent erosion and floods. Suitable watershed cover, moreover, is of prime importance in maintaining water quality.

Recreational opportunities on the National Forests are many and varied throughout the 40 or more States containing National Forest lands. The right of access for recreational purposes is of

inestimable worth from a local, regional and national standpoint. In 1962 more than 112 million visits were made to the National Forests for camping, picnicking, winter sports, hunting, fishing and scenic enjoyment. This represented more than a threefold increase in recreational use as contrasted with 10 years before.

"Other benefits" together with the revenue sharing payments and contribution in-kind discussed earlier, illustrate the varied character of National Forest contributions. They illustrate, moreover, the pitfalls in adopting any single yardstick such as a comparison of estimated taxes with revenue sharing payments to gain a meaningful picture of National Forest impacts. The relationship of the National Forest system to State and local economies is a complex one and requires analysis not only of revenue sharing payments but also of contributions in-kind and "other benefits" if a realistic understanding of the situation is to be achieved.

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A P P E N D I X

Exhibit A

Comparison of estimated taxes, 25 percent fund payments, and contributions-in-kind by National Forest Regions and strata

(1) National forest region and stratum	(2) National forest area	(2-a) Acres in sample and percent of column 2		(3) Estimated tax C.Y. 1962	(4) 25% fund payments F.Y. 1962	(5) Taxes as percent of 25% fund payments	(6) Specific contributions-in-kind F.Y. 1962	(7) 25% fund payments plus contributions in-kind	(8) Taxes as percent of 25% payments plus contributions	(9) Estimated tax per acre	(10) 25% fund payments per acre	(11) Contributions in-kind per acre
	Acres	Acres	Percent	Dollars	Dollars	Percent	Dollars	Dollars	Percent	Cents	Cents	Cents
Region-1												
1. Montana	16,635,677	7,077,938	43	1,963,010	865,119	227	914,962	1,780,081	110	11.8	5.2	5.5
2. N. Idaho	6,865,899	5,685,482	83	3,200,195	622,953	514	830,774	1,453,727	220	46.6	9.1	12.1
3. NE Washington	1,215,977	995,764	82	229,820	186,901	123	125,246	312,147	74	18.9	15.4	10.3
Forest Highways							4,554,016	4,554,016				18.4
Total	24,717,553	13,759,184	56	5,393,025	1,674,973	322	6,424,998	8,099,971	67	21.8	6.8	26.0
Region-2												
1. Colorado	13,676,807	2,815,462	21	2,311,380	195,211	1,184	380,215	575,426	402	16.9	1.4	2.8
2. South Dakota	1,047,444	579,810	55	350,894	38,138	920	123,598	161,736	217	33.5	3.6	11.8
3. Nebraska	245,409	115,638	47	33,621	19,455	173	3,387	22,842	147	13.7	7.9	1.4
4. E. Wyoming	4,781,421	751,642	16	363,388	77,936	466	158,265	236,201	154	7.6	1.6	3.3
Forest Highways							3,458,757	3,458,757				17.5
Total	19,751,081	4,262,552	22	3,059,283	330,740	925	4,124,222	4,454,962	69	15.5	1.7	20.9
Region-3												
1. Arizona	11,345,319	4,303,857	38	1,933,242	409,682	472	442,467	852,149	227	17.0	3.6	3.9
2. New Mexico	8,603,646	1,768,990	21	461,155	132,698	348	645,273	777,971	59	5.4	1.5	7.5
Forest Highways							3,179,787	3,179,787				15.9
Total	19,948,965	6,072,847	30	2,394,397	542,380	441	4,267,527	4,809,907	50	12.0	2.7	21.4
Region-4												
1. South Idaho	13,432,755	4,642,571	35	2,126,405	440,482	483	1,019,546	1,460,028	146	15.8	3.3	7.6
2. Nevada-Utah	12,884,052	5,257,329	41	846,482	160,795	526	480,575	641,370	132	6.6	1.2	3.7
3. W. Wyoming	3,789,144	2,031,912	54	323,403	40,162	805	130,347	170,509	190	8.5	1.1	3.4
4. E. California	629,688	601,203	95	136,831	3,322	4,119	200,241	203,563	67	21.7	.5	31.8
Forest Highways							3,732,367	3,732,367				12.1
Total	30,735,639	12,533,015	41	3,433,121	644,761	532	5,563,076	6,207,837	55	11.2	2.1	18.1
Region-5												
1. S. California	3,403,926	1,353,933	40	3,849,840	81,550	4,721	10,681,519	10,763,069	36	113.1	2.4	313.8
2. Cal.-N. Coast	5,522,602	4,000,666	72	5,257,517	1,579,792	333	2,954,592	4,534,384	116	95.2	28.6	53.5
3. Cal.-Sierra	10,413,738	3,314,974	32	6,446,103	1,476,163	437	8,372,645	9,848,808	65	61.9	14.2	80.4
Forest Highways							4,723,311	4,723,311				24.4
Total	19,340,266	8,669,573	45	15,553,460	3,137,505	496	26,732,067	29,869,572	52	80.4	16.2	138.2

(1)	(2)	(2-a)		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Region-6												
1. W. Oregon	6,302,304	1,867,013	30	20,671,557	13,048,299	158	2,256,225	15,304,524	135	328.0	207.0	35.8
2. E. Oregon	9,037,167	4,736,462	52	5,162,585	2,102,603	246	2,427,321	4,529,924	114	57.0	23.2	26.8
3. W. Washington	4,336,124	1,774,244	41	4,726,375	3,851,135	123	1,487,291	5,338,426	89	109.0	88.8	34.3
4. E. Washington	4,136,348	3,079,988	74	2,605,899	328,711	793	1,542,858	1,871,569	139	63.0	7.9	37.3
Forest Highways							6,839,512	6,839,512				28.7
Total	23,831,943	11,457,707	48	33,166,416	19,330,748	172	14,553,207	33,883,955	98	139.2	81.1	61.1
Region-7												
1. Virginia	1,447,752	798,902	55	176,626	60,983	290	263,491	324,474	54	12.2	4.2	18.2
2. W. Va.-Pa.	1,376,195	461,359	34	232,577	301,986	77	100,462	402,448	58	16.9	21.9	7.3
3. Kentucky	459,991	228,080	50	45,079	70,615	64	63,479	134,094	34	9.8	15.4	13.8
4. Vermont	232,134	73,096	31	73,354	69,623	105	56,641	126,264	58	31.6	30.0	24.4
5. N. Hampshire	727,602	476,668	66	133,151	79,277	168	34,925	114,202	117	18.3	10.9	4.8
Forest Highways							736,109	736,109				17.3
Total	4,243,674	2,038,105	48	660,787	582,484	113	1,255,107	1,837,591	36	15.6	13.7	29.6
Region-8												
1. Ark.-La.	2,999,070	678,168	23	788,755	920,266	86	527,836	1,448,102	54	26.3	30.7	17.6
2. Okla.-Tex.	882,671	320,741	36	240,087	414,933	58	194,188	609,121	39	27.2	47.0	22.0
3. Tenn.-Miss.-Ala.	2,269,549	633,328	28	637,743	1,020,439	62	483,414	1,503,853	42	28.1	45.0	21.3
4. Ga.-Fla.	1,852,359	431,399	23	522,365	495,433	105	202,738	698,171	75	28.2	26.7	10.9
5. N.C.-S.C.	1,711,314	485,153	28	405,581	645,632	63	253,274	898,906	45	23.7	37.7	14.8
Forest Highways							1,632,216	1,632,216				16.8
Total	9,714,963	2,548,789	26	2,594,531	3,496,703	74	3,293,666	6,790,369	38	26.7	36.0	33.9
Region-9												
1. Michigan	2,558,327	680,172	27	874,948	145,650	601	734,240	879,890	99	34.2	5.7	28.7
2. Minnesota	2,766,117	1,696,625	61	940,480	254,816	369	874,093	1,128,909	83	34.0	9.2	31.6
3. Wisconsin	1,467,595	633,834	43	371,302	91,884	404	474,033	565,917	66	25.3	6.3	32.3
4. Missouri	1,360,661	343,609	25	253,083	62,791	403	276,214	339,005	75	18.6	4.6	20.3
5. Ill.-Ind.-Ohio	445,393	213,706	48	142,971	27,136	527	203,099	230,235	62	32.1	6.1	45.6
Forest Highways							1,243,089	1,243,089				14.5
Total	8,598,093	3,567,946	41	2,582,784	582,277	444	3,804,768	4,387,045	59	30.0	6.8	44.3
U. S. Total	160,882,177	64,909,718	40	68,837,804	30,322,571	227	70,018,638	100,341,209	69	42.8	18.8	43.5

Summary of estimated taxes, 25-percent fund payments and contributions in-kind for the Pacific Coast Regions and for the remainder of the Country

As mentioned on page 23, the California and Pacific Northwest Regions taken together account for more than 70 percent of both estimated taxes and 25-percent fund payments. Contributions in-kind in the two Regions amount to nearly 60 percent of the national total. The tabulation that follows shows the effect of the Pacific Coast Regions upon the findings of the study.

Expressed on a per acre basis, the two Regions serve to pull up the national averages very substantially in all three categories of benefits analyzed. Relationships among the three categories, however, do not differ greatly in the Pacific Coast Regions from those elsewhere. The estimated tax as a percent of 25-percent fund payments is somewhat less in the Pacific Coast Regions (217 percent) than in the remainder of the country (256 percent). The estimated tax in relation to the sum of 25-percent fund payments and contributions in-kind, however, is somewhat higher in the Pacific Coast Regions (76 percent) than elsewhere in the United States (55 percent).

	Pacific Coast Regions	Remainder of Country	All Regions
	----------cents per acre----------		
Estimated tax C.Y. 1962	112.8	17.1	42.8
25-percent fund payments F.Y. 1962	52.0	6.7	18.8
Contributions in-kind F.Y. 1962	95.6	24.4	43.5
	----------Percent----------		
Estimated tax as percent of 25-percent fund payments	217	256	227
Estimated tax as percent of combined 25-percent fund payments and contributions in-kind.	76	55	69

Statistical method, sampling and nonsampling error

The sampling method used, the same as that in 1952, is known as "sampling from within strata with probabilities proportional to size of unit." Within each Forest Service administrative region several strata were delineated to improve the distribution of sample counties. Within each of these strata, sample counties were selected at random with probabilities of selection proportional to the area of National Forests in each county. Thus a county with twice as much National Forest area as another county had twice the probability of being selected.

Analysis of sampling accuracy was limited to administrative regions and to the country as a whole. The sampling error, taken as one standard error, was as follows.

F.S. Region	Percent	F.S. Region	Percent
1	13.3	6	9.3
2	18.7	7	8.4
3	39.3	8	8.7
4	12.2	9	5.1
5	16.4	All Regions	6.2 percent

The sampling error for all Regions was one half percentage point higher than in the 1952 study. For individual Regions the sampling error was higher than 10 years ago in 5 Regions and was lower in the remaining 4 Regions. The changes did not exceed 5 percentage points in any Region except the Southwestern where the sampling error was 23 percentage points higher than 10 years ago. This increase resulted from widely divergent assessed values in one county following establishment of a pulp mill and the appraisal of certain development lots at the equivalent of high per acre values.

In addition to errors which result from using sampling procedures rather than making a complete canvass, non-sampling errors also occur. These may include mistakes in judgment, classification, and recording. Nonsampling errors were minimized through the preparation of guiding instructions and uniform criteria, field training sessions, regional supervision, and statistical check of compilations.

Under the heading "Total estimated tax and the estimated tax per acre" on page 12, reference was made to the fire control tax in the States of Oregon and Washington. The effect of including the fire control tax as estimated by the Pacific Northwest Region is shown below for the respective sampling strata and for the Region as a whole (see Exhibit A).

National Forest region and stratum	Estimated tax per acre (cents)
Region 6	
1. W. Oregon	344.0
2. E. Oregon	67.0
3. W. Washington	118.0
4. E. Washington	70.0
Total	150.1

Analysis of National Grassland Contributions, 1962

In 1960 the Secretary of Agriculture designated 3.8 million acres of Land Utilization Projects as National Grasslands. Administered as a part of the National Forest system, permanent status was given to these public lands to promote stable grassland agriculture and multiple use of the grassland resource. Nineteen National Grasslands are situated in eleven Western and Great Plains States located in six Forest Service administrative regions.

Revenue sharing arrangements (similar to, but not identical with, those on National Forest lands) are applicable to the National Grasslands under Title III of the Bankhead-Jones Act (7 U.S.C. 1012). Twenty-five percent of the net revenue from the use of the land is paid annually to the county in which the land is situated to be used for school or road purposes, or both. In view of the long-range type management being given to the National Grasslands, a comparison of estimated taxes, 25-percent fund payments and contributions in-kind was included in the study. This comparison paralleled that for National Forest lands except that all National Grassland counties were analyzed without use of a sampling approach.

National Grassland Summary

Estimated taxes on National Grasslands in the calendar year 1962 amounted to $589,000, an average of between 15 cents and 16 cents per acre. Payments to counties representing 25-percent of net receipts totaled $360,000 or an average of between 9 and 10 cents per acre. In addition, contributions in-kind amounted to $117,000 or an average of 3 cents per acre. Estimated taxes were 1.6 times 25-percent fund payments and 1.2 times 25-percent fund payments and contributions in-kind taken together. These

relationships are shown in tabular form below:

Item	Dollars (Thousands)	Cents per acre	Percent
Estimated tax, calendar year 1962	589.1	15.5	
25-percent fund payments, calendar year 1962	360.1	9.5	
Contributions in-kind, fiscal year 1962	116.7	3.1	
Estimated tax as percent of 25-percent fund payments			164
Estimated tax as percent of combined 25-percent fund payments and contributions in-kind			124

Data for Forest Service administrative regions are shown in the accompanying National Grasslands summary table.

Estimated taxes

Taxes were estimated as in the case of National Forest lands. There was relatively little subclassification of grasslands for assessment purposes and generally only a "grazing" or "pasture" class was used although in some counties this was broken down into "good, "fair", and "poor". Assessed values tended to vary from $1 to $5 per acre with some, however, going as high as $10-$20 per acre. Tax rates varied typically within a range of $2 to $10 per $100 of assessed valuation. The estimated tax as shown in the table varied from an average of 11 cents per acre in the Southwestern Region to 57 cents per acre in the North Central Region.

NATIONAL GRASSLANDS

STUDY OF CONTRIBUTIONS TO STATE AND LOCAL GOVERNMENTS

Summary of estimated taxes, 25-percent fund payments, and contributions in-kind, 1962

Region	Net acres in National Grasslands	Estimated tax	25% fund payments	Estimated taxes as percentage of 25 percent fund payments	Contributions in-kind	25 percent fund payments plus contributions in-kind	Estimated taxes as percentage of payments plus contributions	Estimated tax per acre	25% fund payments per acre	Contributions in-kind per acre
		-----Dollars-----			------Dollars-------			----------Cents---------		
Northern	1,188,647	140,162	204,218	69	80,105	284,323	49	11.8	17.2	6.7
Rocky Mountain	2,095,741	345,496	107,678	321	30,026	137,704	251	16.5	5.1	1.4
Southwestern	294,637	33,702	30,172	112	4,570	34,742	97	11.4	10.2	1.6
Intermountain	47,599	13,471	2,754	489	1,974	4,728	285	28.3	5.8	4.1
Pacific Northwest	105,925	15,427	2,768	557	--	2,768	557	14.6	2.6	--
North Central	71,109	40,812	12,510	326	--	12,510	326	57.4	17.6	--
Total	3,803,658	589,070	360,100	164	116,675	476,775	124	15.5	9.5	3.1

25-percent fund payments

Revenue sharing payments to counties averaged 9.5 cents per acre over the National Grasslands as a whole. Payments ranged from 2.6 cents per acre in the Pacific Northwest Region to 17.6 cents per acre in the North Central Region.

National Grassland receipts stem from two sources: mineral revenues and surface revenues. In 1962 mineral revenues, made up chiefly of oil and gas rentals and royalties, accounted for 60 percent of total payments to counties. Surface revenues, accounting for the remaining 40 percent were made up largely of grazing receipts. During the four year period since establishment of the National Grasslands, payments to counties both from mineral and from grazing receipts have been relatively stable.

Contributions in-kind

Over the National Grasslands as a whole, contributions in-kind averaged 3 cents per acre. Contributions varied from 1.4 cents per acre in the Rocky Mountain Region to 6.7 cents per acre in the Northern Region. No contributions in-kind were claimed for National Grasslands in either the Pacific Northwest or North Central Regions.

Expenditures for which credit was taken as contributions in-kind consisted for the most part of fire control costs (73 percent of the total). These were based on average State and county expenditures per acre for similar areas. The construction and maintainance of structures, chiefly for recreational purposes, represented the second largest type

of contribution in-kind (24 percent). Road maintenance costs and payments under Public Law 874 for school support in Federally affected areas accounted for the remaining Grasslands contributions in-kind.

Comparison of estimated taxes, 25-percent fund payments and contributions in-kind

As indicated in the National Grasslands table, estimated taxes exceeded 25-percent fund payments except in the Northern Region where estimated taxes represented 69 percent of such payments. In all Regions except the Northern and Southwestern, estimated taxes exceeded the sum of 25-percent fund payments and contributions in-kind. Estimated taxes represented 49 percent and 97 percent respectively of revenue sharing payments and contributions in-kind in the latter two regions. In the remaining National Grassland regions estimated taxes represented from 3 to 5 times 25-percent fund payments and the inclusion of contributions in-kind does not greatly change this relationship.

Other benefits

As on the National Forests, "other benefits" are realized that must be taken into account in any meaningful analysis of contributions to State and local governments. Range revegetation and maintenance of a permanent grass cover on formerly depleted, drought stricken and misused land, much of it submarginal for crop production represents a significant benefit not only to stockmen but also to local economies.

Economic gains also result from hunting, fishing and other recreational uses upon lands which in many cases represent the only available local areas open to the public for such purposes. The

social values of recreational use by residents of the region and by visitors from a distance including the heavily populated Eastern States are benefits that need to be considered even though not susceptible of measurement in monetary terms.